

WHAT IS CLAIMED IS:

Sub a37

1. A hybrid fiber coax (HFC) network having network elements operable for communicating telephony, data, and video signals with customer-premises equipment of a subscriber, the HFC network comprising:

5 a database operable for storing data indicative of the configuration of the network elements and the customer-premises equipment, and for storing data indicative of assigned capacity of the network elements; and

10 an online provisioning application link (OPAL) operable with the database for provisioning network elements with the customer-premises equipment of the subscriber based on the assigned capacity of the network elements in order to enable communication of telephony, data, and video signals between the HFC network and the customer-premises equipment of the subscriber.

15 2. The HFC network of claim 1 further comprising:

an HFC network manager for monitoring status of the network elements and the customer-premises equipment, for controlling configuration of the network elements and the customer-premises equipment, and for monitoring the configuration of the network elements and the customer-premises equipment.

20 3. The HFC network of claim 2 further comprising:

a fault manager having an alarm visualization tool operable with the HFC network manager and the database for generating visual displays of the status and configuration of the network elements and the customer-premises equipment of the subscriber.

25 4. The HFC network of claim 3 further comprising:

30 a trouble ticket system operable with at least one of the HFC network manager and the fault manager for generating trouble ticket alerts in response to improper status of at least one of the network elements and the customer-premises equipment.

5 5. The HFC network of claim 4 wherein:

the HFC network manager updates the improper status of the at least one of the network elements and the customer-premises equipment to a proper status after the trouble ticket alert has been addressed.

10 6. The HFC network of claim 3 further comprising:

a trouble ticket system operable with at least one of the HFC network manager and the fault manager for generating trouble ticket alerts in response to improper configuration of at least one of the network elements and the customer-premises equipment.

15 7. The HFC network manager of claim 6 wherein:

the HFC network manager updates the improper status of the at least one of the network elements and the customer-premises equipment to a proper status after the trouble ticket alert has been addressed.

20 8. The HFC network of claim 1 wherein:

the network elements include a host digital terminal (HDT) for communicating the telephony signals, a cable modem termination system (CMTS) for communicating the data signals, and video equipment for communicating the video signals.

25 9. The HFC network of claim 8 wherein:

the network elements further include a fiber optics node connected at one end to the HDT, the CMTS, and the video equipment by a fiber optics network and connected at the other end to the customer-premises equipment by coax.

30 10. The HFC network of claim 1 further comprising:

an order manager operable with the OPAL for monitoring the provisioning of HFC network elements with customer-premises equipment by OPAL.

11. The HFC network of claim 1 wherein:

the database is a service, design, and inventory (SDI) database and further stores data indicative of physical and logical connections between the HFC network and the customer-premises equipment of subscribers.

5

12. The HFC network of claim 1 wherein:

the OPAL provisions the network elements with customer-premises equipment such that the network elements and the customer-premises equipment are logically connected.

10

13. In a broadband network having a hybrid fiber coax (HFC) network provided with network elements operable for communicating telephony, data, and video signals with customer-premises equipment of a subscriber, an automated method for provisioning HFC network resources comprising:

storing data indicative of the configuration of the network elements and the customer-premises equipment;

storing data indicative of assigned capacity of the network elements; and provisioning network elements with the customer-premises equipment of the subscriber by controlling the configuration of the network elements and the customer-premises equipment based on the data indicative of the assigned capacity of the network elements in order to enable communication of telephony, data, and video signals between the HFC network and the customer-premises equipment of a subscriber.

0
5
10
15
20
25
30

14. The method of claim 13 further comprising:

monitoring status of the network elements and the customer-premises equipment; and

monitoring the configuration of the network elements and the customer-premises equipment.

30

15. The method of claim 14 further comprising:

generating visual displays of the status and configuration of the network elements and the customer-premises equipment of the subscriber based on the monitored status of the network elements and the customer-premises equipment and the data indicative of the configuration of the network elements and the customer-premises equipment.

5

16. The method of claim 14 further comprising:

generating trouble ticket alerts in response to improper status of at least one of the network elements and the customer-premises equipment.

10

17. The method of 14 further comprising:

generating trouble ticket alerts in response to improper configuration of at least one of the network elements and the customer-premises equipment.

© 1983 by The University of Texas Press. All rights reserved.